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Atmospheric Neutrino Oscillations in IceCube DeepCore

The DeepCore sub-array within the IceCube Neutrino Observatory is a densely instrumented region of Antarctic ice designed to observe atmospheric neutrino interactions above 5 GeV, via Cherenkov radiation. At these energies, Earth-crossing muon neutrinos have a high chance of oscillating away to tau neutrinos. These oscillations have been previously observed in DeepCore through both muon neutrino disappearance and tau neutrino appearance channels. This poster will present the status of the IceCube Collaboration's newest analysis of the atmospheric neutrino oscillation parameters using 8 years of data. In addition to several more years of data, this analysis benefits from recent significant efforts in improving background rejection, reconstruction techniques, modeling of systematic uncertainties, particle identification, and much more.

Mini-abstract

New analysis of atmospheric neutrino oscillation parameters using 8 years of IceCube DeepCore data

Experiment/Collaboration

IceCube Collaboration

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